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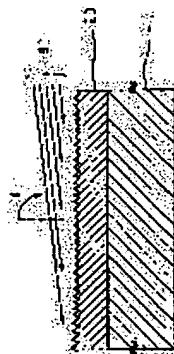
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## (54) SURFACE FLATTENING METHOD AND SOI SUBSTRATE FORMING METHOD USING SAID SURFACE FLATTENING METHOD

(57)Abstract:

PURPOSE: To easily flatten a body surface without contaminating the body surface by rotating the body, and projecting an ion beam onto the surface of the body at an incidence angle of about  $85^\circ$  or more with respect to the normal direction of the surface.

CONSTITUTION: A single crystal spinal film 20 formed by CVD method is laminated on a single crystal silicon substrate 1. While the substrate 1 on which the spinal film 20 is formed is rotated in a horizontal plane, an argon ion beam is projected at an incidence angle of  $80^\circ$  or more with respect to the normal direction of the spinal film 20 surface. Thereby, fine unevenness on the spinal film 20 surface is etched and eliminated, so that the spinal film 20 surface can be flattened without contamination of the spinal film 20 surface or exfoliation of the spinal film 20, as observed in the case of the conventional polishing method.



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